

### CLAIMS

1. A maskless optical setup to generate interference patterns within selected areas of a photosensitive material, without the need of any physical mask to delimitate the spatial extent of the register of the interference pattern, ensuring that the surrounding area is not affected by light.

2. An optical setup as claim 1 that ensures that the time needed to register all the design polygonal patterns (that build up the complete optical device) is linearly proportional to the number of colours specified for the reference geometry and not to the area or to the number of pixels within the overall area of the optical device.

3. An optical setup configuration that implements the claims 1 and 2 and that is based on the Scheimpflug and Hinge conditions, ensuring adequate superposition between different optical beams in an imaging configuration.

4. Three optical configurations that implement in practical terms the above claims, based, respectively, on a) two object physical locations and two optical channels, b) one object physical location and two optical channels and c) one object physical location and one optical channel.